This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

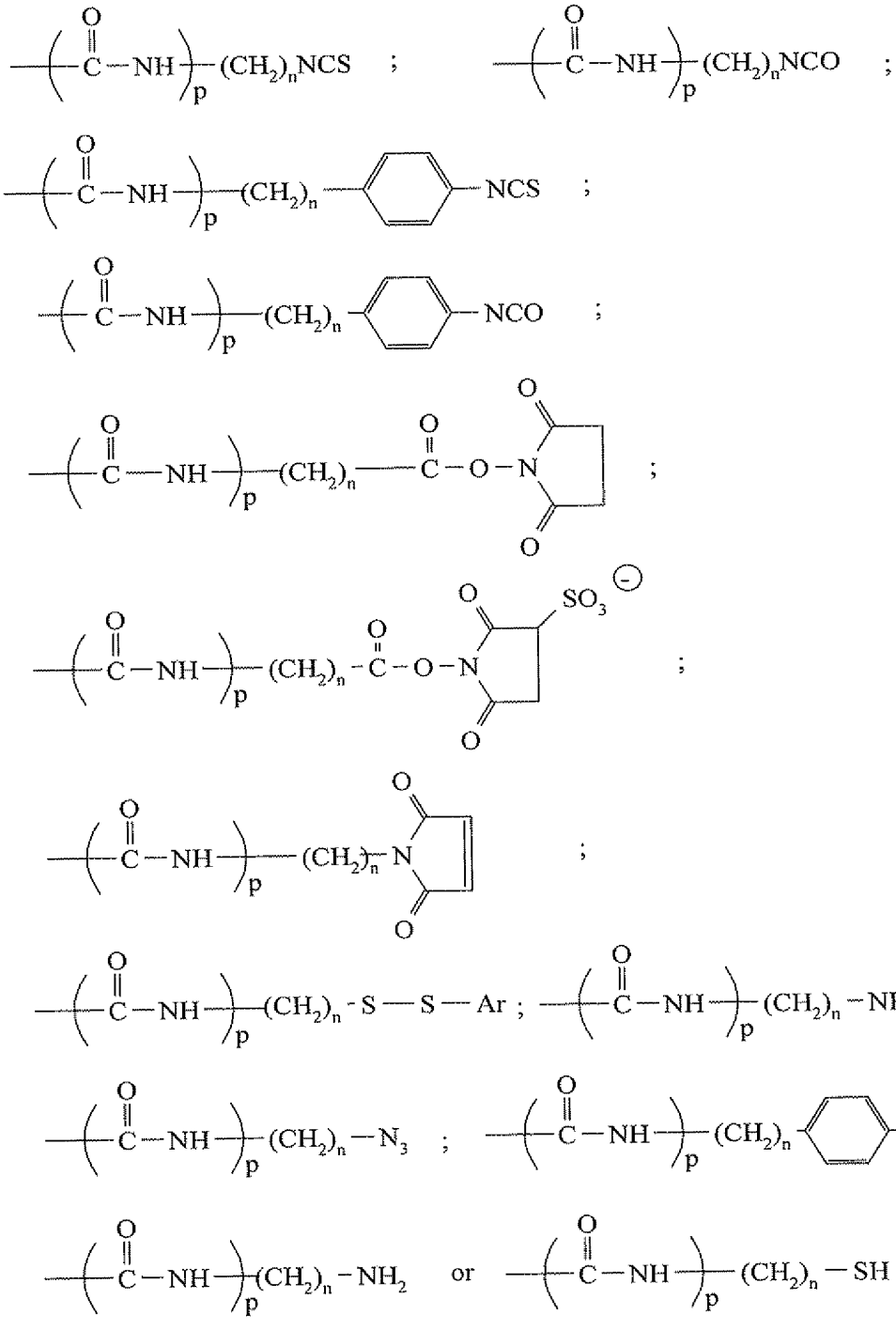
1-41 (Cancelled)

42. (Currently Amended) A fluorescent conjugate comprising:

- a fluorescent entity comprising ~~a fluorophore, with the exception of a rare earth metal cryptate,~~a cyanine dye covalently attached to one or more oligonucleotide(s) or oligonucleotide analog(s),

- a carrier molecule ~~selected among~~which is an antibody~~, an antigen, an intracellular messenger, an intercellular messenger,~~or a protein~~, a peptide, a hapten, a lectin, biotin, avidin, streptavidin, a toxin, a carbohydrate, an oligosaccharide, a polysaccharide, a nucleic acid, a hormone, a vitamin, a medicinal product;~~

said entity being covalently attached to said carrier molecule by means of at least one functional group on the ~~fluorophore~~cyanine dye or one of the oligonucleotides or oligonucleotide analogs, said functional group being ~~chosen from the groups:~~ maleimide, carboxylic acid, haloacetamide, alkyl halide, azido, hydrazido, aldehyde, ketone, amino, sulfhydryl, isothiocyanate, isocyanate, monochlorotriazine, dichlorotriazine, aziridine, sulfonyl halide, acid halide, hydroxysuccinimide ester, hydroxysulfosuccinimide ester, imido ester, hydrazide, azidonitrophenyl, azidophenyl, azide, 3-(2-pyridyldithio)proprionamide glyoxal, ~~and~~or groups of the following formulae:



where n is ~~in the range of from~~ 0 to 8 and p is equal to 0 or 1, and Ar is a 5- or 6-membered heterocycle comprising 1 to 3 hetero atoms, optionally substituted with a halogen atom.

43. (Currently Amended) The conjugate as claimed in claim 42, ~~characterized in that~~wherein the oligonucleotide or the oligonucleotide analog ~~comprises~~has 2 to 60 nucleotide units.

44. (Currently Amended) The conjugate as claimed in claim 42, ~~characterized in that~~wherein the functional group is attached to said entity via a spacer arm.

45. (Canceled)

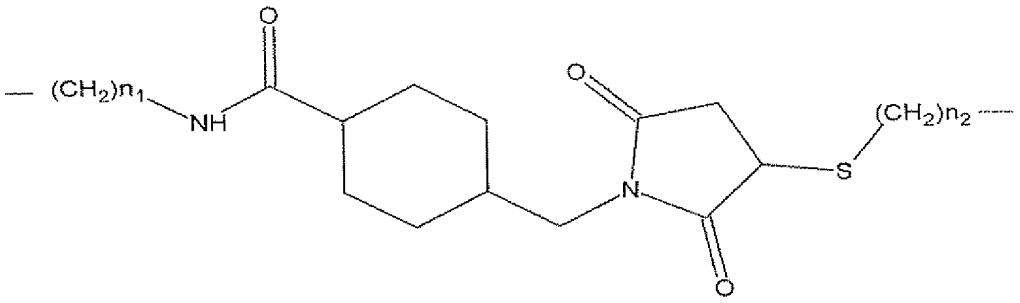
46. (Canceled)

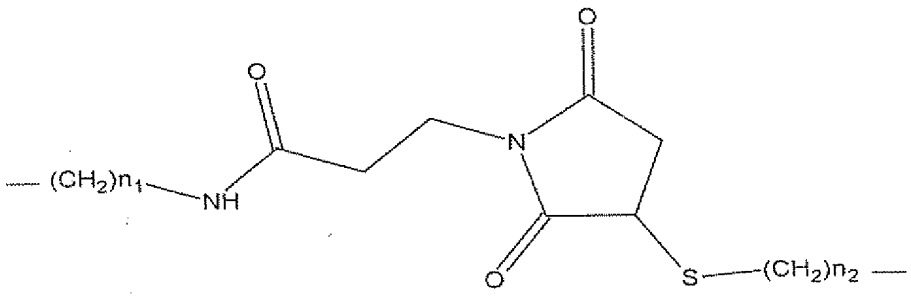
47. (Currently Amended) The conjugate as claimed in claim 42, ~~characterized in that the fluorophore~~wherein the cyanine dye of the fluorescent entity is covalently attached to the oligonucleotide either directly or via a spacer arm.

48. (Currently Amended) The conjugate as claimed in claim 47, ~~characterized in that the fluorophore~~wherein the cyanine dye is attached to the oligonucleotide via a spacer arm consisting of a divalent organic radical ~~chosen from~~that is a linear or branched C_1-C_{20} alkylene groups optionally containing one or more double bonds or triple bonds and/or optionally containing one or more hetero atoms, ~~such as oxygen, nitrogen, sulfur, phosphorus,~~ or one or more carbamoyl or carboxamido group(s); C_5-C_8 cycloalkylene groups and C_6-C_{14} arylene groups, said alkylene, cycloalkylene or arylene groups optionally being substituted with alkyl, aryl or sulfonate groups.

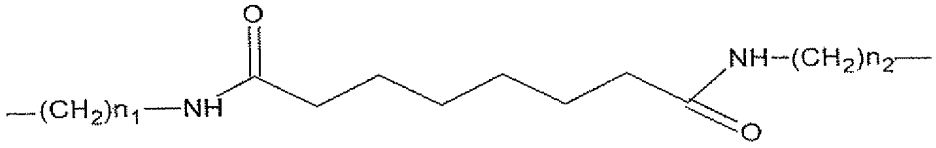
49. (Currently Amended) The conjugate as claimed in claim 48, ~~characterized in~~

~~that~~wherein the spacer arm is ~~chosen from the groups~~:





or



in which n_1 and n_2 are ~~in the range of~~ 2 to 6.

50. (Currently Amended) The conjugate as claimed in claim 42, ~~characterized in that~~wherein the oligonucleotide ~~comprises~~has 5 to 60 nucleotide units.

51. (Currently Amended) The conjugate as claimed in claim 50, ~~characterized in~~

~~that~~wherein the oligonucleotide comprises a series of ribonucleotide or deoxyribonucleotide units attached to one another via phosphodiester bonds ~~of the phosphodiester type~~.

52. (Currently Amendment) The conjugate as claimed in claim 50, ~~characterized in that~~wherein the oligonucleotide comprises a series of ribonucleotide or deoxyribonucleotide units or of nucleotide analog units modified on the sugar or on the base, attached to one another by natural internucleotide phosphodiester bonds, some of the internucleotide bonds being optionally replaced with phosphonate, phosphoramide or phosphorothioate bonds.

53. (Currently Amended) The conjugate as claimed in claim 50, ~~characterized in that~~wherein the oligonucleotide comprises a series comprising both ribonucleotide or deoxyribonucleotide units attached to one another by phosphodiester bonds and nucleoside analog units attached to one another by amide bonds.

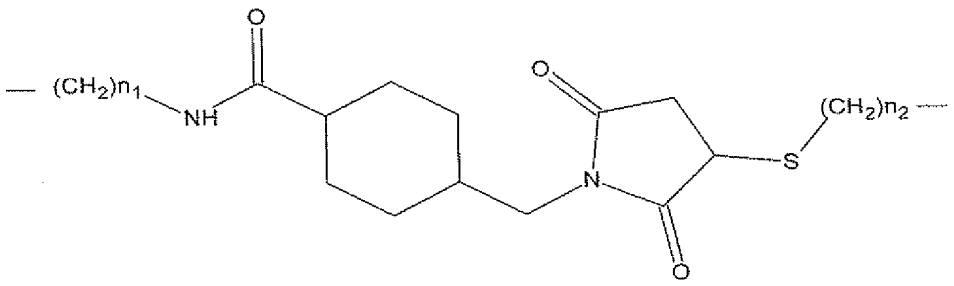
54. (Currently Amended) The conjugate as claimed in claim 50, ~~characterized in that~~wherein the oligonucleotide comprises a series of ribonucleotide or deoxyribonucleotide units attached to one another by phosphodiester bonds and of nucleoside analog units attached to one another by amide bonds, said oligonucleotide comprising at least 5 internucleotide bonds of the phosphodiester type at the end intended to be attached to the fluorophore.

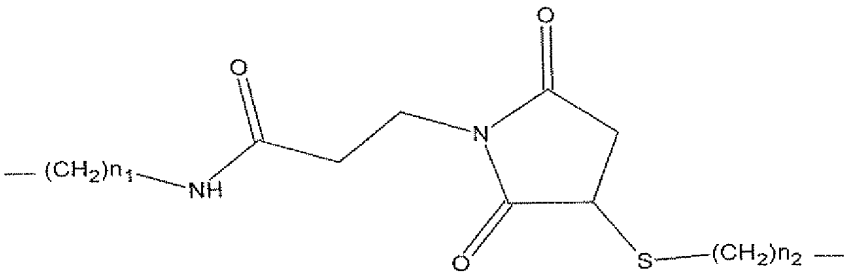
55. (Currently Amended) The conjugate as claimed in claim 42, ~~characterized in that~~wherein the functional group is an amine function of a nucleotide unit of the oligonucleotide or of the oligonucleotide analog, or results from the reaction of a free amine function of a nucleotide unit of the oligonucleotide or the oligonucleotide analog, with a ~~group chosen from the groups:~~ ester, carboxylic acid, isothiocyanate, aldehyde, carbonyl, sulfonyl halide, alkyl halide, azide, hydrazide, dichlorotriazine, anhydride, haloacetamide, maleimide ~~and~~or sulfhydryl group.

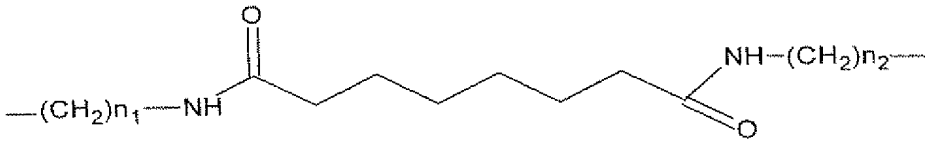
56. (Currently Amended) The conjugate as claimed in claim 42, ~~characterized in that~~wherein the functional group results from the reaction of a free amine function of a nucleotide unit of the oligonucleotide or of the oligonucleotide analog, with an N-hydroxysuccinimidyl ester.

57. (Currently Amended) The conjugate as claimed in claims 42, ~~characterized in that~~wherein the functional group(s) is (are) attached to the ~~fluorophore~~cyanine dye and/or to the oligonucleotide by a divalent organic radical spacer arm ~~consisting of a divalent organic radical, chosen from~~which is linear or branched C_1-C_{20} alkylene groups optionally containing one or more double bonds or triple bonds and/or optionally containing one or more hetero atoms, such as oxygen, nitrogen, sulfur, phosphorus, or one or more carbamoyl or carboxamido group(s); C_5-C_8 cycloalkylene groups and C_6-C_{14} arylene groups, said alkylene, cycloalkylene or arylene groups being optionally substituted with alkyl, aryl or sulfonate groups.

58. (Currently Amended) The conjugate as claimed in claim 57, ~~characterized in that~~wherein the spacer arm is ~~chosen from the groups~~:







in which n_1 and n_2 are in the range of 2 to 6.

59. (Canceled)

60. (Currently Amended) The conjugate as claimed in claim 42, ~~characterized in that~~wherein the carrier molecule is an antibody ~~or streptavidin~~.

61. (Canceled)

62. (Canceled)

63. (Previously Presented) The conjugate of claim 50, wherein the oligonucleotide comprises 5-15 nucleotide units.

64. (Canceled)

65. (New) The conjugate as claimed in claim 42, wherein the carrier molecule is streptavidin or avidin.

66. (New) The conjugate of claim 42, wherein the cyanine is Cy5 or sulfonated Cy5.